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ABSTRACT

This paper questions the physical environmental adequacy of the Infant/Toddler Environment Rating Scale (ITERS) developed by Thelma Harms, Debby Cryer, and Richard Clifford at the University of North Carolina, Chapel Hill. ITERS is a 35-item scale designed to assess the quality of center-based infant and toddler care, and one of a family of child care rating scales developed by its authors. It is based on a broad definition of environment, considering not only the organization of space, but interaction, activities, schedule, and provisions as well. An evaluation of the 396 detailed descriptors that are used to score a center on the scale items found that only 35 were directly related to the physical environment of the center. Some test items are confounded with behavioral use patterns. The scale is also silent on important issues, such as the use of traditional, self-contained classrooms versus modified open spaces; the pros and cons of different organizational patterns; the environmental characteristics of a center that facilitate developmentally appropriate play activities; and the environmental impact of age-mixing. Items measuring peer interaction and caregiver-child interaction lack any descriptor that relates to the physical setting. Other strengths and weaknesses of the ITERS are discussed. (MDM)

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The Evaluation of Child Care Centers and the "Infant/Toddler Environment Rating Scale": An Environmental Critique[1]

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

In much of the "environmental" and social science literature, even when the construct of "environment" is invoked, it is most often limited to the effects of aspects of the *social* environment (e.g., amount and quality of adult interaction with children) and not the physical and/or designed environment. Conversely, those working in the environmental professions tend to ignore the role of the social environment and often espouse, if unconsciously, an environmental deterministic position.

Where in this continuum does the *Infant/Toddler Environment Rating Scale* (ITERS) lie?

The ITERS is a part of the family of child care rating scales developed by Thelma Harms, Richard Clifford, and their colleagues at the Frank Porter Graham Child Development Center at the University of North Carolina, Chapel Hill. The three scales -- the *Early*

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Childhood Environment Rating Scale for group-based child care centers, the *Family Day Care Rating Scale* for family day care homes, and the ITERS -- are a major contribution to the child care literature. They are the best known and likely the most widely used scales to assess quality child care.

The ITERS, developed by Harms, Debby Cryer, and Clifford, consists of 35 items organized into seven sub-scales. It is intended for the assessment of the quality of center-based infant and toddler care for children up to 30 months of age. It is based on a broad definition of child care environments including not only what the authors call the organization of space but also interaction, activities, schedule, and provisions. It is as comprehensive as any scale available for the assessment of child care.

Many so-called scales are developed and promulgated in informal literature without adequate study of their reliability and validity. Several studies of the psychometric properties of the ITERS were conducted and reported in 1989. In particular, Clifford and his colleagues found that interrater and test-retest reliability were in the range of r = .58 to .89, internal consistency was alpha = .83, criterion validity was 83%, and content validity was between 75 to 86%. All of these figures are quite respectable, enough so that Columbia University's Teachers College Press has published the scale.

So the scale is reliable and is valid vis a vis other available scales and experts' opinions. But is it *environmental*?

First, to be quantitative, I did a content analysis of the scale. Of the 35 items, 14 have some environmental content *(environmental* used here in the sense of the physical environment of the infant or toddler center, not the social or organizational environment, i.e., that part of the total environment that can be manipulated architecturally). For example, the item "Furnishing for routine care" includes numbers of pieces of furniture, comfort and support, storage, and child-sized. On the other hand, items like "Nap" don't contain any reference to whether napping should be in separate nap rooms, in double-functioning nap/play rooms, or in partially partitioned napping spaces. The scale is silent on this important environmental issue.

Of the 396 detailed descriptors that make up and are used to score a center on the scale items (e.g., "diapering done near source of hot water," or "nap is scheduled appropriately for each child"), only 35 or 8.8% have any what I would call *physical environmental content* that could help one assess the physical environment -- the facility itself. Some of these descriptors are very good, like (undoubtedly based on the work of Elizabeth Prescott) requiring softness and cozy special areas for high scores on "Furnishings for relaxation and comfort" and (perhaps based on the work of Fred Osmon) correlating the separation of activity areas from circulation with quality child care.

But in other places the environmental characteristics of a test item are confounded with the behavioral use patterns. "Furnishings permit appropriate independence for toddlers (Ex. toddlers use small chairs...)." Which is being assessed? The environmental characteristic

(the character of the furnishings themselves)? Or the behavioral use pattern (that toddlers do or do not use small chairs, which could be influenced not only by the characteristics of the furniture but also by staff, whether games are spread out on the floor or on tables, and so forth)?

And in still other places, the scale is surprisingly silent on important issues about the physical environment of infant and toddler centers. Space only allows me to give a few examples to make the point. Under "Room arrangement," the scale seems to uncritically assume one overall organizational pattern for infant/toddler centers -- the box-car arrangement of a double-loaded corridor with self-contained classrooms. How about other organizations, like what we have been calling for many years "modified open space"? The scale is silent on the pros and cons of different organizational patterns, despite the existence of research literature documenting the relative advantages and disadvantages of different spatial layouts. It may be that the procedure of calculating validity by comparison with other scales and a small panel of experts is an inherently conservative process.

"Areas for quiet and active play separated (Ex. by low shelves)" is an indicator of good room arrangement. A more sophisticated notion would be "zoning," a standard operating procedure of any architect. Also related to the goodness of room arrangement is the item that "Young infants given space and materials to explore while protected from more mobile children." No one would disagree about the necessity for safety, but the scale is silent on age-mixing, so much a part of many progressive approaches to child care (cf. the book by

Lilian Katz on the case for mixed-age grouping in early education), and ways in which the environment might aid and abet age-mixing without creating safety problems.

Under "Greeting/departing," the scale is silent about the characteristics of the environment that might aid greeting and departing like our concept of "cubby clusters." Similarly, under "Meals/snacks," the scale doesn't discuss the pros and cons of centralized industrialized kitchens (a major expense for any chid care center) versus what we have been calling since 1979 "children in the kitchen."

The scale is very good about the necessity for a variety of play areas for infants and toddler (art, music and movement, blocks, pretend play, even sand and water play for toddlers), but again is silent on the environmental characteristics of infant/toddler center that will facilitate these types of developmentally appropriate play activities.

On the items measuring "Peer interaction," not one descriptor relates to the designed environment. However, we have found child-child interaction to be a function of plan type (reported in Carol Weinstein and Tom David's 1987 *Spaces for Children).* All other things equal, modified open plan centers evidence almost twice the degree of social interaction among children than do open plan centers. Similarly, regarding "Caregiver-child interaction," where again no descriptor relates to the physical setting, we have found significantly more caregiver involvement with children in spatially well-defined activity settings than in moderately defined or poorly defined ones (reported in the 1986 *Journal of*

Environmental Psychology). It would seem valuable to add to the ITERS scale items reflecting these findings about the role of the physical environment in quality child care.

The ITERS scale is also strangely silent on a number of other environmental issues that architects and other designers are confronted by each time they move a pencil in designing a child care center, and center directors are confronted with each time they consider the facility program for a new or renovated center. Among these are location, size, scale, image, circulation, character of the outdoor activity areas, and so on.

Lastly, as just one example of how such a scale might be revised and modified to incorporate more environmental content, how about not only requiring a variety of activity areas, but also specifying something about their supportive environmental characteristics.[7] The environmental notion of "resource rich activity areas" was transformed a number of years before the ITERS into a preliminary environmental scale for the "Organization and character of individual areas" (Moore, 1982). And on a larger scale, the organization of the space of the center as a whole was made into a preliminary scale for research purposes only. The two were labelled the "Early Childhood Physical Environment Scales" and are available from the author. Each is comprised of 10 items which, like the ITERS, are measured on a Likert-type scale, in our case a 5-point scale from descriptors like "visual connections to other activity spaces" to "lack of connections" or "degree of connection between indoor and outdoor activity spaces" to "lack of connection."

Together with one of my students, Nancy Genich, we are currently working to develop a new scale for the evaluation of child care centers which could be used for self-assessment, for monitoring, maybe for parents concerned about quality child care, for formal post-occupancy evaluation, ~~or~~ and as an aid in the redesign of exiting centers or the design of new centers.

As the first part of that effort, we will be conducting a comparative evaluation of all other available child care center evaluation tools and scales.

But beyond that, based on my earlier work with Uriel Cohen and Tim McGinty on patterns for child care centers, we will develop a number of new design criteria. Over the years, I have become rather convinced that somewhere around 18 patterns are absolutely critical for the success of any child care facility. I hope that our new "Early Childhood Physical Environment Scales" will include many or most of those 18 principles as scale items with appropriate descriptors.

Subsequently we will test the new scale (or scales) on existing child care centers.

Nancy's intent, as a type of undergraduate honors "thesis" is to use the first version of our new scale both for a POE of an existing child care center and for its redesign.

We hope to report on this work in subsequent issues of *Children's Environments.*

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